



## South Wales RIGS Group Site Record

### RIGS Description

**SECTION A**

General	South Wales
<b>Site Name:</b> Clydach Halt Lime Works	<b>File Number:</b> Site_232_309
<b>RIGS Number:</b> 632	<b>Surveyed by:</b> Gareth Owen
<b>Grid Reference:</b> SO 2340 1280	<b>Date of Visit:</b> 2010
<b>RIGS Category:</b> Scientific, educational, historic	<b>Date Registered:</b>
<b>Earth Science Category:</b> Palaeoenvironment, stratigraphy, palaeontology	<b>Owner:</b> Duke of Beaufort Estate <b>Planning Authority:</b> Monmouthshire County Council/ Brecon Beacons National Park Authority
<b>Site Nature:</b> Disused quarries within open access upland	<b>Documentation prepared by:</b> Gareth Owen
<b>Unitary Authority:</b> Monmouthshire County Council / Brecon Beacons National Park Authority	<b>Documentation last revised:</b> 2 <sup>nd</sup> March 2011
<b>OS 1:50,000 Sheet:</b> 161	<b>Photographic Record:</b> Attached
<b>OS 1:25,000 Explorer Sheet:</b> OL13	
<b>BGS 1:50,000 Sheet:</b> 232	
<p><b>RIGS Statement of Interest:</b></p> <p>Almost the entire Carboniferous Limestone succession can be studied in the series of quarries here, from the Blaen Onnen Oolite Formation at the base to the Dowlais Limestone Formation at the top. The rocks provide ample study of a range of ancient environments encompassing shallow marine current-swept shoals, intertidal oolites and mudstones, soil horizons with lime-pans, sub-aerial karstic weathering, backswamp and floodplain. The variation in rock type allows reconstruction of changes in the ancient environment in which they were formed, with fluctuations between shallow marine and terrestrial conditions.</p> <p>This is the type section for both the Clydach Halt Member of the Llanelly Formation, and the Cwm Dyar Geosol.</p> <p>The site is also of interest from an industrial history perspective; the quarries fed an extensive limeworks on the site up until the 1950s, the remains of which can still be seen today.</p>	

**Geological setting/context:**

Clydach Halt Lime Works is a critical component of a network of 27 registered and proposed GCR sites representing the Dinantian Subsystem of the South Wales – Mendip Shelf. All the sites have been fully documented in the published GCR volume entitled 'British Lower Carboniferous Stratigraphy' (Cossey *et al.*, 2004). The selected sites cover the whole range of palaeogeographical environments associated with the Lower Carboniferous South Wales-Mendip Shelf; a term used by Cossey *et al.* to describe the shallow shelf sea between the Wales-Brabant Massif to the north and the Culm Trough to the south. These sites were chosen to provide coverage of key stratigraphic units and facies variations, and to illustrate specific aspects of the depositional regime and of approaches in detecting climate fluctuations. During Courcayan to Holkerian times, the Clydach Halt area lay on the northern margin of the South Wales-Mendip Shelf. It is one of a sub-network of 6 GCR sites chosen across the North Crop of the South Wales syncline, together representing the range of features that develop when limestone-producing environments are sub-aerially exposed following sea-level falls. There are marked variations in lithology and successions in each of the six sites, and the sequence at Clydach Halt provides an excellent site to complement the other 5 localities (Llanelly Quarry, Cwar Blaen Onneu, Cwar yr Ystrad and Hendre, Baltic Quarry and Odynau Tyle'r Bont). Of particular interest is the difference in succession seen in Clydach Halt compared with Gilwern Quarry, just 1.2km to the east: The 70+m of Dowlais Limestone found at Clydach Halt is entirely missing in the Gilwern Quarry section, where the Llanelly Formation is overlain directly by Millstone Grit. This suggests that the shoreline lay between the two localities during Holkerian times.

**References:**

DAVIES, J H. 1992. *Site Management Report Series; Clydach Halt Lime Works*. CCW Internal Publication

COSSEY, P J, ADAMS, A E , PURNELL, M A , WHITELEY, M J, WHYTE, M A and WRIGHT, V P. 2004. *British Lower Carboniferous Stratigraphy*, Geological Conservation Review Series, No. 29, Joint Nature Conservation Committee, Peterborough

## SECTION B

### PRACTICAL CONSIDERATIONS:

Please score Accessibility and Safety Red Amber or Green

#### Accessibility:



Comment: The site lies within Open Access upland, and can be easily approached either via the minor road above, or the long distance Sustrans route on the disused railway beneath.

#### Safety:



Comment: As with any disused quarry, there is danger of rock fall from faces. The faces here are taller than would be left under modern quarrying practice, and so extra vigilance is advised. Fly tipping has occurred in the past, with cars and other large objects dropped from the minor road above.

**Conservation status:** This site has been registered as a GCR site, and as such is a proposed SSSI. Designation as RIGS will provide awareness of the importance of this site until such time as SSSI status is achieved.

### OWNERSHIP/PLANNING CONTROL:

**Owner/tenant:** Duke Of Beaufort Estates own the land, and the land is part of a common.

**Planning Authority:** Brecon Beacons National Park Authority

**Planning status/constraints/opportunities:** The site would lend itself to interpretation due to the proximity of the Sustrans route. Further quarrying is not possible here due to the topography and other constraints.

### CONDITION, USE & MANAGEMENT:

**Present use:** Grazing under common rights

**Site condition:** Excellent

**Potential threats:** Continued fly tipping of cars!

**Site Management:** Continued grazing

### SITE DEVELOPMENT:

**Potential use (general):** The site has potential for interpretation aimed at the general public using the adjacent Sustrans route. It is also of interest for the link between geology and industrial history.

**Potential use (educational):** The site is a first class teaching resource for all ages, from school to post-doctoral research.

### Other comments:

## Photographic Record

Plate 1: View of one of the quarry faces showing sequence from Blaen Onnen Oolite (1), Coed Ffyddlwn Formation (2), Gilwern Oolite (3), Clydach Halt Mudstone (4), Cheltenham Limestone (5), Penllwyn Oolite (6) and Gilwern Mudstone (7).



Plate 2: Close-up view of the Clydach Halt Mudstone exposed in another of the quarry faces within the RIGS.

Plate 3: The uppermost quarry on the site exposing Gilwern Oolite at its base (3), Clydach Halt Limestone (4), Cheltenham Limestone (5), the more competent Penllwyn Oolite (6), and the Gilwern Clay Member (7).

